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Applicants:	Cathryn E. Goodman et al.
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Steven G. Parmelee
Registration No. 28,790
Attorney for Applicant(s)

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APPEAL BRIEF

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Commissioner for Patents
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Sir:

Pursuant to 37 C.F.R. §1.192, the Applicants hereby respectfully submit the following Brief in support of their appeal. Pursuant to 37 C.F.R. §1.192(a) this brief is being filed in triplicate.

(1) Real Party in Interest

Motorola, Inc. is the real party in interest.

(2) Related Appeals and Interferences

There are no other appeals or interferences known to Appellant, the Appellant's legal representative, or assignee that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

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(3) Status of Claims

Claims 1 through 51 are presently pending and stand twice and finally rejected. This appeal is with respect o the rejection of claims 1-51.

(4) Status of Amendments

No amendments have been filed subsequent to final rejection.

(5) Summary of Invention

The present application is largely directed towards methods and apparatus for capturing fingerprints. With reference to FIG. 1 (reproduced below for the convenience of the Examiner) a fingerprint capture device can be comprised of a plurality of memory cells (11) that each includes an electrical device such as a charge storage device (12). [Page 4, lines 29-31.] Such a memory can comprise, for example, a static random access memory. The charged state of the charge storage device (12) represents a logical one or zero as stored within that corresponding memory cell. [Page 5, lines 2-5.] This device includes a fingerprint contact surface (13) that is disposed over the memory cells (11). This fingerprint contact surface (13) has a plurality of conductive paths (14) formed through it such that at least some of the conductive paths (14) are conductively coupled to at least some of the electric devices (12). [Page 5, lines 5-8.]

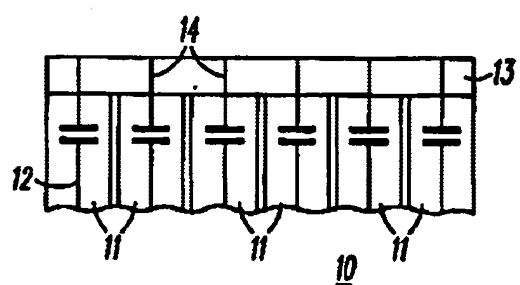

FIG. 1

The fingerprint contact surface (13) can be comprised, for example, of an epoxy material such as an anisotropic material epoxy. In a preferred approach, the conductive paths (14) are formed through the fingerprint contact surface (13) by conductive spheres (these spheres may be, for example, approximately seven millionths of a meter in diameter and may

be comprised of nickel; though silver or gold has been used for such spheres in the past, these spheres are left instead with a nickel oxide coating formed thereabout to thereby present considerable resistance to the flow of electricity). [Page 6, lines 6-20.]

With reference to FIG. 2 (reproduced below for the convenience of the reader), the charge storage devices (12) of the memory cells each couple, in a preferred embodiment, to a conductive surface (22) formed on an exterior surface of the memory. In addition, other conductive surfaces (22) couple to a common rail (28). [Page 5, lines 13-25.] When an object (26) such as a finger contacts the fingerprint contact surface (13), protruding aspects of the surface of the object (i.e., fingerprints) will contact some of the conductive spheres (21). When this occurs, current (27) can flow from a previously charged storage device (12) and the conductive surface (22) as corresponds thereto through the conductive sphere (21) that is in conductive contact with the conductive surface (22) and then through the object (26) itself, and through another conductive sphere (21) / conductive surface (22) configuration to reach the common rail (28). This will cause the charge storage device (12) to discharge. Other charge storage devices that do not couple to the object in this way will not be discharged and will retain their preexisting charge. As a result, the fingerprint capture device (10) functions to simultaneously sense asperities on the object while also storing that sensed information. They occur simultaneously because sensing and storage are both effected by discharging the charge storage device of the corresponding memory cell. [Page 7, lines 18 – Page 8, line 7.]

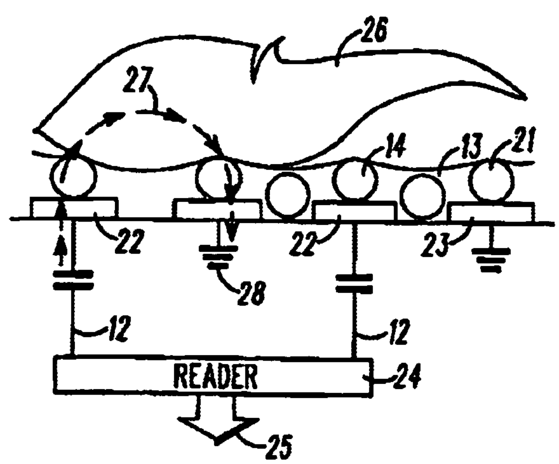

FIG. 2

As noted earlier, the conductive spheres (21) are preferably comprised of nickel and have an exterior surface comprising nickel oxide that presents considerable electrical resistance. This resistance is not so large as to impede the discharge of a charge storage device (12) as described above, but is, however, large enough to significantly attenuate an electrostatic discharge. Consequently, a large potentially damaging electrostatic discharge will be reduced to a significantly smaller surge (or dissipated completely) prior to reaching the conductive surface (22) and the charge storage device (12) that might otherwise be harmed by such a discharge. [Page 8, line 23 – Page 9, line 4.]

(6) Issues

Claims 1-10 are rejected under 35 U.S.C. §103(a) given Shigematasu (EP 1018695) ("Shigematasu"). Claims 11-17 are rejected under 35 U.S.C. §103(a) given Shigematasu in view of Newton et al. (U.S. 6,376,393) ("Newton"). Claims 18-51 are rejected under 35 U.S.C. §103(a) given an unspecified reliance upon Shigematasu alone (as with the rejection of claims 1-10) or Shigematasu as combined with Newton (as applied in the rejection of claims 11-17). The applicant disputes these rejections.

(7) Grouping of Claims

Group I includes claims 1, 18, 32, 44, 49, and 50. Group II includes claims 14, 15, and 16. Group III includes claims 29 and 30. Group IV includes claims 32, 38, and 44. Group V includes claims 1, 18, 19, 32, 40, 44, 49 and 50. Group VI includes claims 11, 21, 26, 34, 43 and 46. Group VII includes claims 12, 13, 22, 23, 25, 27, 36, 39 and 48. Group VIII includes claim 7.

(8) Argument

Rejections under 35 U.S.C. §103

As all of the claims stand rejected in view of Shigematasu, either alone or in combination with Newton, the applicant believes it would be helpful to first briefly describe and characterize Shigematasu.

Shigematasu discloses a fingerprint recognition apparatus and method. That is, Shigematasu both senses a fingerprint and compares that fingerprint against preexisting data

to attempt to determine the identity of the person providing the fingerprint sample. With reference to FIG. 3 of Shigematasu (reproduced below for the convenience of the reader) Shigematasu provides a so-called pixel unit (101) that includes a fingerprint sensor circuit (102) a fingerprint memory (103), and a recognition circuit (104) that couples to both. The recognition circuit (104) itself includes a register (105) to capture the output of the fingerprint sensor circuit (102) in response to a write signal as provided by an external control circuit (111). So configured, Shigematasu's pixle unit (101) can sense a fingerprint via the fingerprint sensor circuit (102) and, in response to a write signal, capture that data in a register (105). A comparison circuit in the recognition circuit (104) can then compare that captured fingerprint data against previously stored fingerprint information (as recovered from the fingerprint memory (103)) in order to make the desired identification.

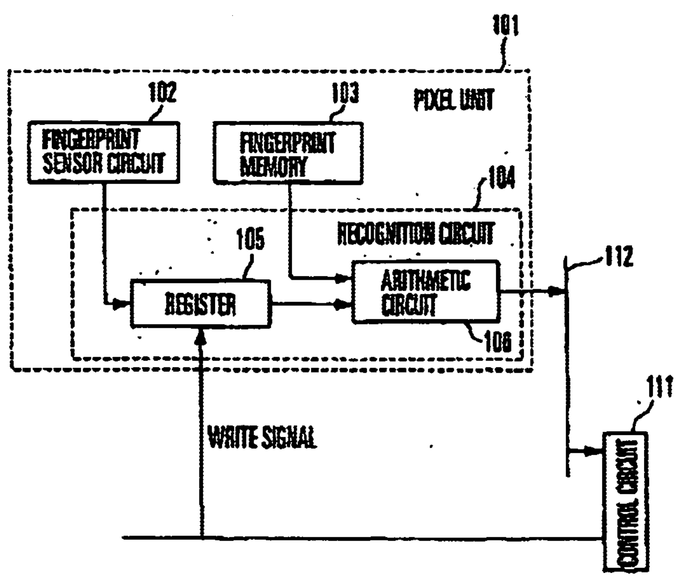

FIG. 3

With reference to FIG. 2 of Shigematasu (reproduced below for the convenience of the reader), Shigematasu's sensor element includes a contact electrode (202) formed on interlevel insulator (201) with an interconnection (202a) being connected to the contact electrode (202). So configured, this interconnection (202a) provides a lateral circuit trace to permit a signal detected by the contact electrode (202) to be sent to the recognition circuit (104).

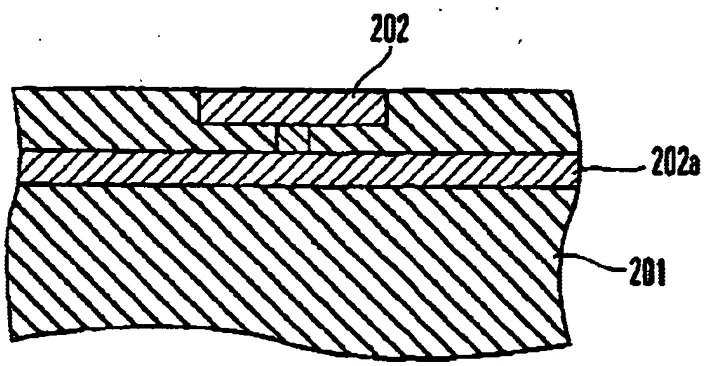

FIG. 2

With reference to FIG. 14 (reproduced below for the convenience of the reader), Shigematasu discloses a variation on the above-described approach wherein a data coupling is provided between the fingerprint memory (103) and the recognition circuit register (105). So configured, fingerprint information as stored in the register (105) can thereafter be transferred to the fingerprint memory (103) for future use to facilitate future identifications.

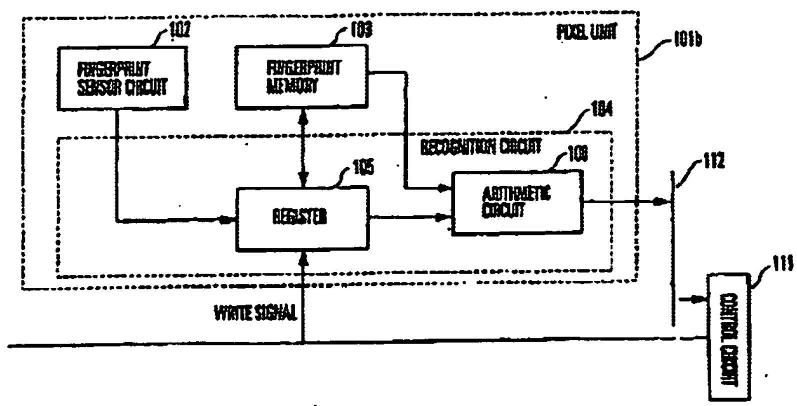

FIG. 14

It can be seen that Shigematasu does teach coupling a fingerprint sensor circuit to a corresponding memory. The electrical devices that comprise the memory cells of such a memory, however, are clearly not substantially directly conductively coupled to corresponding contact surfaces of the fingerprint sensor circuit. This conclusion is readily evident given the write-enablement nature of the register itself. If the fingerprint sensor contact surfaces were directly coupled to the electrical devices comprising the memory cells of the register, there would be no need for such a write signal. Instead, and in accord with well understood prior art technique in this regard, Shigematasu only permits such data input to the register in response to a write signal. The intervening gates that control the provision of sensed fingerprint information to the electrical devices comprising the memory cells clearly represent the opposite of a substantially direct conductive coupling. Instead, Shigematasu presents a selective, indirect, controlled conductive coupling at best.

Shigematasu also makes no teachings with respect to the use of spheres when forming a conductive path through his fingerprint contact surface. Shigematasu further makes no teaching or suggestion that his conductive path present substantial resistance to current flow. Shigematasu also makes no teaching or suggestion that his conductive path be formed through his fingerprint contact surface. Instead, Shigematasu's conductive path extends only a fractional distance into his depicted supporting layer with a related conductive trace then passing laterally therefrom.

Group I

The claims of Group I share a requirement that the conductive path of a fingerprint contact surface be substantially directly conductively coupled to a corresponding electrical devices that comprise the memory cells of a memory. For example, claim 1 provides:

> "A fingerprint contact surface disposed substantially coplanar to the memory wherein the fingerprint contact surface has a plurality of conductive pads formed through the fingerprint contact surface and wherein at least some of the conductive pads are substantially directly conductively coupled to at least some of the corresponding electrical devices."

As noted above, Shigematasu does provide a fingerprint contact surface and further provides a memory that does couple thereto. As noted above, however, this coupling is not a substantially direct one. Instead, the coupling is obviously routed through a write-enabled

the recitations common to the claims of this Group are an obvious choice. The applicant therefore respectfully submits that the claims of Group III are distinguished from the references of record.

Group IV

The claims of this Group are characterized in that recitations are present that provide specificity with respect to simultaneous sensing of tactile impressions information and storage of such information in a memory. For example, exemplary claim 32 reads, in part:

> "Simultaneously sensing and storing in the memory tactile impressions information regarding at least some of the asperities...."

Shigematasu's embodiments are utterly bereft of such a capability nor does Shigematasu to make any such suggestion. Shigematasu senses fingerprint information via a discrete fingerprint sensor circuit and then, upon subsequent receipt of a write signal from a control circuit, commits that information to storage in a register. While such actions may occur rapidly, they do not, and cannot, occur "simultaneously." Furthermore, the claim language provides not only for "storing in the memory" the tactile impressions information but also "sensing" those tactile impressions information in the memory. Claim 32 specifies that this ability to simultaneously sense and store *in the memory* such information occurs "by discharging at least some of the electrical devices as correspond to locations where asperities directly contact the contact surface." Shigematasu clearly provides no mechanism for using his register to sense tactile impressions. Instead, Shigematasu provides a discrete fingerprint sensor circuit to provide the sensing capability and a discrete memory to provide a segregated storage capability. The applicant therefore respectfully submits that the claims of this Group IV are distinguished from the references of record.

Group V

As noted above, Shigematasu discloses a corollary to a fingerprint contact surface having a conductive path formed partially, but not through, the fingerprint contact surface. Shigematasu teaches only that the conductive path pass partially through the fingerprint contact surface. The claims of this Group, however, specify that the conductive paths are

control interface that intervenes, at a minimum, between such memory cell electrical devices on the one end and the conductive path of the fingerprint contact surface. The Examiner appears to argue, in effect, that Shigematasu in fact comprises a substantially direct conductive coupling as between these elements. The applicant respectfully submits that this comprises a plainly over simplified and inappropriate view of Shigematasu. The applicant therefore respectfully submits that the claims of Group I may be distinguished from Shigematasu on this basis.

Group II

As will be discussed below with respect to Groups VI and VII, conductive spheres can be used to comprise the pathways discussed above with respect to Group I. With respect to the claims of Group II, not only are conductive spheres utilized for this purpose, but these claims further specify that at least some portion of the conductive sphere physically contact the memory. For example, exemplary claim 14 reads:

> "The fingerprint capture device of claim 11 wherein at least a portion of some of the conductive spheres physically contacts the memory."

These claims, in other words, specify a very direct kind of contact between the conductive paths that are formed through the fingerprint contact surface and that conductively couple to the memory cells. Even if Shigematasu were to disclose the use of conductive spheres as his interconnection media of choice, Shigematasu makes no suggestion or teaching that such a pathway extend so far as to exhibit physical contact with the memory itself. The applicant therefore respectfully submits that the claims of Group II are distinguished from the references of record.

Group III

The claims of this Group provide yet further specificity with respect to the coupling between the memory and the cured epoxy having discrete conductive elements disposed therein as specified by claim 25 (an independent claim from which the claims of this Group ultimately depend). In particular, claim 29 provides for "a memory that is physically and electrically coupled to the cured epoxy" and claim 30 further provides that "the memory includes a plurality of electrically conductive surfaces that are electrically coupled to memory cells in the memory and that physically contact the cured epoxy." Shigematasu's teachings are contrary to such a configuration and certainly provide no basis upon which to suggest that

formed *through* the fingerprint contact surface. For example, exemplary claim 1 reads in part:

> "A fingerprint contact surface disposed substantially coplanar to the memory wherein the fingerprint contact surface has a plurality of conductive paths formed through the fingerprint contact surface..."

Since Shigematasu makes no such teaching, the applicant respectfully submits that the claims of this Group are readily distinguished from the references of record.

Group VI

The claims of this Group specify that the conductive paths are comprised of conductive spheres. The Examiner argues that the lack of spheres in Shigematasu can be filled by the borrowing of spheres as taught by Newton. The applicant respectfully disagrees with this characterization and use of Newton. Newton describes a process for forming an anisotropic dielectric layer rather than anisotropic conductive layer. Although Newton refers to a difference in impedence between the Z direction as opposed to the X or Y direction, it is not necessarily clear from that reference what the impedence level is. Nevertheless one can infer from the fact that the dielectric layer is formed on top of an insulation layer on an integrated circuit (with oxide, nitride, carbide and diamond having been given as examples) that the impedence is so low as to be essentially non-conducting. The material therefore acts as a capacitive element in the equivalent circuit. In the present application, however, the material is a conductive element and has a substantially different role and composition from the Newton material. The applicant therefore respectfully submits that a combination of Newton with Shigematasu, regardless of how obvious or unobvious that combination may be, will yield, in totality, a resultant embodiment that is of so foreign a purpose and application as to be readily distinguished from the recitations of the claims of this Group. The applicant therefore respectfully submits that the claims of Group VI are readily distinguished from the references of record.

Group VII

The claims of this Group are directed to the use of conductive elements (either for the pathway as suggested in claim 12 or as discrete conductive elements otherwise present in a cured epoxy as presented in claim 25) wherein the discrete conductive elements (such as

conductive spheres) "present a substantial resistance to current flow." The Examiner argues as follows:

> "With respect to claims 12 and 13, the substantial resistance to the current flow, and the spheres are comprised of nickel oxide is well known in the art of capacitance measuring. Therefore, it have been obvious to one ordinary skilled in the art at the time of invention to simply use the well known features of capacitance measuring such as having a capacitor made of nickel oxide to measure the finger capacitance in order to get the fingerprint." [Office Action mailed October 3, 2003, page 4, line 16 – page 5, line 2.]

The applicant respectfully disagrees with these observations. Furthermore, even assuming for purposes of argument the accuracy of the Examiner's assertions with respect to the well-known use of capacitance measuring, such abstract knowledge does lead one, directly or indirectly, to form the conductive spheres of nickel oxide (as suggested in claim 13) or to otherwise present discrete conductive elements in a conductive path that in fact present a substantial resistance to current flow such as is suggested in claim 25. This being the case, the applicant respectfully submits that the claims of this Group are readily distinguished from the references of record.

Furthermore, the purpose of providing such elements is to permit dissipation of potentially damaging electro static discharges. Two of the claims of this Group (36 and 48) specifically articulate this point. For example, claim 36 provides, in part:

> "The method of claim 32 and further comprising dissipating electrostatic discharge within at least some of the conductive paths."

Neither Shigematasu nor Newton provide any such suggestion or teaching. The applicant therefore again respectfully submits that the claims of this Group are readily distinguished from the references of record.

Group VIII

Claim 7, the only claim of this Group specifies that:

> "Some of the plurality of conductive surfaces are each electrically coupled to a corresponding one of the corresponding electrical devices."

In other words, instead of a one to one correlation between conductive surfaces that are formed on an exterior surface of the memory, many conductive surfaces are coupled in common to a single electrical device (such as the charge storage device). Such a many-to-

one mapping for storage capability or option is simply absent from the prior art references of record. The applicant therefore respectfully submits that the claim of this Group is distinguished from the references of record.

Claims that were not presented as a specific member of a particular group are otherwise dependent upon a claim that has been discussed as a member of a group and distinguished from the references of record. The applicant therefore respectfully submits that these claims may be passed to allowance as well.

With all due respect, the applicant respectfully submits that claims 1-51 are allowable over the references of record and may be passed to allowance.

(9) Appendix

1. (Previously amended) A fingerprint capture device comprising:
- a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device;
- a fingerprint contact surface disposed substantially coplanar to the memory wherein the fingerprint contact surface has a plurality of conductive paths formed through the fingerprint contact surface and wherein at least some of the conductive paths are substantially directly conductively coupled to at least some of the corresponding electrical devices.

2. (Original) The fingerprint capture device of claim 1 wherein the memory comprises a solid state memory.

3. (Original) The fingerprint capture device of claim 2 wherein the solid state memory comprises a random access memory.

4. (Original) The fingerprint capture device of claim 3 wherein the random access memory comprises a static random access memory.

5. (Original) The fingerprint capture device of claim 2 wherein the corresponding electrical device comprises a charge storage device.

6. (Original) The fingerprint capture device of claim 1 wherein the memory includes a plurality of conductive surfaces formed on an exterior surface thereof.

7. (Original) The fingerprint capture device of claim 6 wherein some of the plurality of conductive surfaces are each electrically coupled to a corresponding one of the corresponding electrical devices.

8. (Original) The fingerprint capture device of claim 6 wherein some of the plurality of conductive surfaces are electrically coupled to a common rail.

9. (Original) The fingerprint capture device of claim 6 wherein some of the plurality of conductive surfaces are each electrically coupled to a corresponding one of the corresponding electrical devices and some of the plurality of conductive surfaces are electrically coupled to a common rail.

10. (Original) The fingerprint capture device of claim 1 wherein the fingerprint contact surface comprises an epoxy material.

11. (Original) The fingerprint capture device of claim 10 wherein at least some of the conductive paths are comprised of conductive spheres.

12. (Original) The fingerprint capture device of claim 11 wherein at least some of the conductive spheres present a substantial resistance to current flow.

13. (Original) The fingerprint capture device of claim 12 wherein at least some of the conductive spheres are comprised of nickel oxide.

14. (Original) The fingerprint capture device of claim 11 wherein at least a portion of some of the conductive spheres physically contacts the memory.

15. (Original) The fingerprint capture device of claim 14 wherein at least a portion of some of the conductive spheres is physically exposed to an exterior of the fingerprint contact surface.

16. (Original) The fingerprint capture device of claim 11 wherein at least some of the conductive spheres physically contacts the memory and have a portion that is physically exposed to an exterior of the fingerprint contact surface.

17. (Original) The fingerprint capture device of claim 11 wherein at least a plurality of the conductive spheres have a diameter of approximately seven millionths of a meter.

18. (Previously amended) A device comprising:
- a random access memory comprising an array of memory cells and having exposed conductive pads substantially directly electrically coupled to the memory cells;
- anisotropic cured conductive epoxy disposed over at least a plurality of the exposed conductive pads wherein at least a majority of the anisotropic cured conductive epoxy is exposed.

19. (Original) The memory device of claim 18 wherein the anisotropic cured conductive epoxy has a plurality of conductive paths formed therethrough.

20. (Original) The memory device of claim 19 wherein at least some of the conductive paths are electrically coupled to at least some of the exposed conductive pads.

21. (Original) The memory device of claim 20 wherein at least some of the conductive paths are comprised of conductive spheres.

22. (Original) The memory device of claim 21 wherein at least some of the conductive spheres present a substantial resistance to current flow.

23. (Original) The memory device of claim 22 wherein at least some of the conductive spheres are formed of nickel oxide.

24. (Original) The memory device of claim 18 wherein the anisotropic cured conductive epoxy comprises a fingerprint contact surface.

25. (Original) A device comprising a cured epoxy having discrete conductive elements disposed therein wherein at least a majority of the discrete conductive elements present a substantial resistance to current flow and are at least partially exposed on either side of the cured epoxy.

26. (Original) The device of claim 25 wherein a plurality of the discrete conductive elements are comprised of conductive spheres.

27. (Original) The device of claim 26 wherein a plurality of the conductive spheres are comprised of nickel oxide.

28. (Original) The device of claim 26 wherein a plurality of the conductive spheres are about seven millionths of a meter in diameter.

29. (Original) The device of claim 25 and further comprising a memory that is physically and electrically coupled to the cured epoxy.

30. (Original) The device of claim 29 wherein the memory includes a plurality of electrically conductive surfaces that are electrically coupled to memory cells in the memory and that physically contact the cured epoxy.

31. (Original) The device of claim 30 wherein at least some of the discrete conductive elements electrically and physically contact at least some of the electrically conductive surfaces of the memory.

32. (Previously amended) A method for sensing and storing tactile impressions information comprising:

- providing a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device;
- providing a contact surface disposed substantially coplanar to the memory wherein the contact surface has a plurality of conductive paths formed through the contact surface and wherein at least some of the conductive paths are substantially directly conductively coupled to at least some of the corresponding electrical devices;
- placing an object having a surface with asperities on the contact surface;
- simultaneously sensing and storing in the memory tactile impressions information regarding at least some of the asperities by discharging at least some of the electrical devices as correspond to locations where asperities directly contact the contact surface.

33. (Original) The method of claim 32 wherein providing a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device includes providing a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding charge storage device.

34. (Original) The method of claim 32 wherein providing a contact surface disposed substantially coplanar to the memory wherein the contact surface has a plurality of conductive paths formed through the contact surface includes providing a contact surface disposed substantially coplanar to the memory wherein the contact surface has a plurality of conductive spheres disposed therein which conductive spheres comprise conductive paths.

35. (Original) The method of claim 34 wherein discharging at least some of the electrical devices includes discharging at least some of the electrical devices through at least some of the conductive spheres.

36. (Original) The method of claim 32 and further comprising dissipating electrostatic discharge within at least some of the conductive paths.

37. (Original) The method of claim 32 and further comprising storing in the memory a reference set of data representing tactile impressions information against which subsequently sensed and stored tactile impressions information is to be compared.

38. (Original) A method for sensing and storing fingerprint information comprising:
- providing a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding charge storage device and wherein the memory further includes a plurality of conductive pads disposed on a surface thereof such that some of the conductive pads are electrically coupled to at least one of the charge storage devices and some of the conductive pads are electrically coupled to a common rail;
- providing a contact surface formed at least in part of cured epoxy and being disposed substantially coplanar to the memory wherein the contact surface has a plurality of conductive spheres disposed at least partially within the contact surface and wherein at least some of the conductive spheres are conductively coupled to at least some of the conductive pads;
- placing an object having fingerprint features on the contact surface;
- simultaneously sensing and storing in the memory fingerprint information regarding at least some of the fingerprint features by discharging at least some of the charge storage devices as correspond to locations where fingerprint features directly contact the contact surface through a discharge path that includes a conductive pad as coupled to a charge storage device to be discharged, at least a first conductive sphere, the object, at least a second conductive sphere, and a conductive pad as coupled to the common rail.

39. (Original) The method of claim 38 wherein providing a contact surface having a plurality of conductive spheres includes providing a contact surface having a plurality of conductive spheres comprised of nickel oxide.

40. (Original) A method of forming a device to simultaneously sense and store tactile information regarding asperities of an object comprising:
- providing a memory having exposed conductive pads on a surface thereof;
- disposing an epoxy material having discrete conductive elements disposed therein on at least a portion of the surface to thereby contact and at least partially cover at least one of the exposed conductive pads;
- compressing at least part of the epoxy material to thereby cause at least one of the discrete conductive elements to physically contact a conductive pad;
- curing the epoxy material to harden the epoxy material and to shrink the epoxy material such that at least a portion of at least some of the discrete conductive elements are exposed.

41. (Original) The method of claim of 40 and further comprising treating at least exposed portions of the discrete conductive elements to improve electrical conductivity between the discrete conductive elements and an object placed in contact with the epoxy material.

42. (Original) The method of claim 40 wherein providing a memory having exposed conductive pads on a surface thereof includes providing a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding charge storage device and wherein the memory further includes a plurality of conductive pads disposed on a surface thereof such that some of the conductive pads are electrically coupled to at least one of the charge storage devices and some of the conductive pads are electrically coupled to a common rail.

43. (Original) The method of claim 40 wherein disposing an epoxy material having discrete conductive elements disposed therein includes disposing an epoxy material having discrete conductive elements comprising conductive spheres disposed therein.

44. (Previously amended) A method for sensing and storing tactile impressions information comprising:

- providing a plurality of discrete memory units, each of the memory units being comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device;
- providing a contact surface disposed substantially coplanar to at least some of the memory units wherein the contact surface has a plurality of conductive paths formed through the contact surface and wherein at least some of the conductive paths are substantially directly conductively coupled to at least some of the corresponding electrical devices for a plurality of the memory units;
- placing an object having a surface with asperities on the contact surface;
- simultaneously sensing and storing in at least a plurality of the memory units tactile impressions information regarding at least some of the asperities by discharging at least some of the electrical devices as correspond to locations where asperities directly contact the contact surface.

45. (Original) The method of claim 44 wherein providing a plurality of discrete memory units, each of the memory units being comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device includes providing a plurality of discrete memory units, each of the memory units being comprised of a plurality of memory cells wherein each memory cell has a corresponding charge storage device.

46. (Original) The method of claim 44 wherein providing a contact surface disposed substantially coplanar to at least some of the memory units wherein the contact surface has a plurality of conductive paths formed through the contact surface includes providing a contact surface disposed substantially coplanar to at least some of the memory units wherein the contact surface has a plurality of conductive spheres disposed therein which conductive spheres comprise conductive paths.

47. (Original) The method of claim 46 wherein discharging at least some of the electrical devices includes discharging at least some of the electrical devices through at least some of the conductive spheres.

48. (Original) The method of claim 47 and further comprising dissipating electrostatic discharge within at least some of the conductive paths.

49. (Previously amended) A fingerprint capture device comprising:
- a memory comprised of a plurality of discrete memory units, wherein each memory unit is comprised of memory cells, wherein each memory cell has a corresponding electrical device;
- a fingerprint contact surface disposed substantially coplanar to at least some of the memory units wherein the fingerprint contact surface has a plurality of conductive paths formed through the fingerprint contact surface and wherein at least some of the conductive paths are substantially directly conductively coupled to at least some of the corresponding electrical devices.

50. (Previously amended) A mechanism having an enabled state and a disabled state, comprising:
- a memory comprised of a plurality of memory cells wherein each memory cell has a corresponding electrical device;
- a fingerprint contact surface disposed substantially coplanar to the memory wherein the fingerprint contact surface has a plurality of conductive paths formed through the fingerprint contact surface and wherein at least some of the conductive paths are substantially directly conductively coupled to at least some of the corresponding electrical devices;
- a processor operably coupled to the memory and being programmed to switch between the enabled state and the disabled state as a function, at least in part, of memory contents in the memory as entered through the fingerprint contact surface.

51. (Original) The mechanism of claim 50 wherein the mechanism comprises one of:

- a projectile weapon;

- a barrier operator;

- a communications device;

- a smartcard; and

- a computer.

Respectfully submitted,

By: ______________________________

Steven G. Parmelee
Registration No. 28,790

Date: June 18, 2004

FITCH, EVEN, TABIN & FLANNERY
120 South LaSalle, Suite 1600
Chicago, Illinois 60603-3406
Telephone: (312) 577-7000
Facsimile: (312) 577-7007